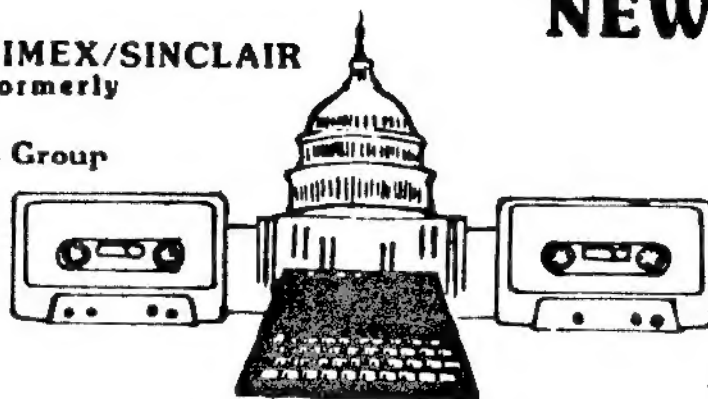


# CATS

CAPITOL AREA TIMEX/SINCLAIR  
USERS GROUP :Formerly  
Prince George's  
Timex/Sinclair User's Group

# NEWSLETTER



Vol. 2 No. 4  
July, 1984

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We now have a new group of officers in CATS! Let's wish them Luck in their new positions. We also should thank the outgoing officers at this time for the great job they did carrying CATS through the past year. We had some wonderful meetings, with great guests and lots of things to see and do. Still lots of rumors flying around the grapevine about a takeover of Timex. So far nothing to all these rumors. SYNTAX has come back, bigger than ever. We hope we can all give Kirt Olsen lots of good reasons to keep publishing. All members who had a SYNC subscription who have not heard further from SYNC about their refund or reassignment of their subscription should write to PRESIDENT OF ZIFF DAVIS PUBLISHING at ONE PARK AVENUE, New York 10016. Scream loud and clear. There is very little going on that's exciting in the TIMEX field. Most of the peripheral manufacturers are still hanging in. Remember, when you write to an advertiser tell them where you saw their ad. If you see a slight change in the look of the newsletter, it's because we have a new Editor. Yours' truly sent out a cry for contributions to this month's newsletter and was pleasantly surprised to get submissions from far and near. Phil Doughty of Providence, RI. Duncan Teague of Memphis, TN. Jim Hayes of Dover, DE. And lastly from CATS locally, Beeler, Cohen, Conger, The Fishers, Gerber, Pollock, and Shaffer. We will wait with anticipation for the August submissions that are due by July 21st please. If you really want to have fun attend the HAM and COMPUTERIST FEST at Howard County July 29. If you've never been, you are in for a great thrill. You may even come away with a new Monitor or what have you! This issue has a report from a committee meeting. Let's hope we receive a report for the members from other Committee chairmen. JULES GESANG

## CATS ROSTER OF OFFICERS

President Mark Fisher  
Vice President Mike Cohen  
2nd Vice Pres. Wayson Lee  
Secretary Bob Curnutt  
Treasurer Sarah Fisher  
  
Newsletter Editor Jules Gesang

## AD RATES APPEAR ON PAGE 5

For this issue contributors appear below.

Any suggestions for material you would like to see in future issues will be considered if you submit your suggestions to the EDITOR. The address for submissions appears below with the deadline calander.

HOW ABOUT SOME LETTERS TO THE EDITOR?

*Jules*

## NEWSLETTER contributors

Ned Beeler	Bernie Gerber
Mike Cohen	Jules Gesang
John Conger	Jim Hayes
Phil Doughty	Alan Pollock
Mark Fisher	Jack Shaffer
Sarah Fisher	Duncan Teague

## 1984 Meeting and Newsletter deadlines

July	14th	-----
August	11th	July 21
September	8th	Aug 18
October	13th	Sep 22
November	10th	Oct 20
December	8th	Nov 17

SUBMIT ALL NEWSLETTER MATERIAL  
DIRECT TO JULES GESANG, BOX 452  
RANDALLSTOWN, MD 21133 TO ARRIVE  
NO LATER THAN DEADLINE.

## ONE LAST MESSAGE

Well, Saturday (6-9) was my last day as your president

I would like to thank the 55 members who were present for the almost pseudo, but effective ceremony.

After the break the new administration was officially seated, and Mike L. Cohen, V.P. took charge and closed the meeting.

I appreciated very much, your farewell applause.

There are also some other benefits that were afforded me by all of you during the past year.

For example, I had the opportunity to write an article for SYNC MAGAZINE, a nationally distributed periodical.

This was a special event for me because I have never had any education in the computer field other than what I had learned from the club and the members.

This little article that was printed in the MARCH/APRIL issue, has prompted a response that continues to this day, that is to say, people are calling me from as far away as Colorado, and I still get letters from all around the country.

Although I wrote the article, there were two other people who played an important role in my success as an author.

First I'll mention Jules Gesang, since he put me in touch with his friend at SYNC. SYNC told me what they were looking for (the subject matter they wanted to present).

Second, and so very important was Mark Fisher and his newsletter articles.

It was these articles, not to mention my incessant questioning of Mark about specifics, that gave me the foundation to write the article.

The whole point of this story is to stress just how important to me the the CATS club and my association with it has been.

Cont. on pg 3

One of the most impressive developments during my administration was the expansion of the CATS NEWSLETTER.

Thanks to Mark and his staff our newsletter has become one of the finest periodicals in the country.

A special thanks has to be given to Jules.

During the beginning months of my term, Jules would turn up some of the most extraordinary guests, to fill out the monthly meeting.

For example, it was Jules, who somehow finagled a way to get a TIMEX COMPUTER engineer to visit us at no cost to the club.

He was always able to inform us accurately, on ongoing activities at TIMEX and everyone else in the computer field.

It seemed like we were always the first to know the latest news, even when we didn't like it.

Without a doubt Jules' contribution to the club has been immeasurable.

I am really pleased with the new officers. Having Mark as president is probably one of the best things that could have happened to the club.

I am glad to see Sara as our new Treasurer. She has put so much work into our club, it is pleasing to see her as one of our constructive officers.

Mike Cohen as V.P. is excellent, since he has been participating with executive board for the past couple of months. He will already be familiar with what is wanted and needed by the club.

My hat's off to Wayson Lee. He is the only officer to run and be elected to two successive terms. His contribution to the club has been sincere and profitable. We could use more people like him.

And Bob Cornutt as Secretary is a wise selection. He is acquainted with the problems of the club, attended several executive meetings and already knows the rest of the board.

All-in-all I am looking forward to the next year. It looks to me like we have an A-NUMBER-ONE-TEAM!!!!!!

## DATABASE GROUP MEETS AT CONGER'S.

The 3rd session of the PROGRAM APPLICATIONS GROUP met on Saturday June 23rd at the home of John Conger. Nine computerists attended the meeting to discuss database programming. The meeting began with a short review of the file program in MEMOTEXT, followed by quick reviews of PROFILE and VU-FILE. Mike Cohen of Bowe (262-4642) gave a demonstration of TFO, including how to format files and reports. The conclusion, presented by John, was a short discussion of the extent to which TFO, in particular, allows you to do many of the same operations as a d-BASE II. The next session of the group will be in September; suggestions of other applications would be greatly appreciated. If there is sufficient interest, the group may expand to cover programs for the 2068. John Conger can be reached at home at 301-654-5751.

## MARYLAND HAMFEST AND COMPUTERFEST

Sponsored by the Baltimore Radio Amateur Television Society on SUNDAY, July 29, 1984 at the HOWARD COUNTY FAIRGROUNDS.

Giant Flea  
Market--Computers-Refreshments -  
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In closing, I would like to thank from the bottom of my heart all of you, who helped me to complete my term.

THANK YOU

NED

## FASTLOAD Revisited

I got a "letter to the editor" last month that remarked that my review of Fastload looked like it had been written in a hurry. He was right - I was in the middle of classes, but I wanted to let people know about Fastload. The following should help to fill in the gaps I left in my last review.

Fastload is one of a group of utility programs that have been developed to eliminate one of the Timex's biggest problems - its slow LOAD and SAVE times. Two other programs (among several) that do the same job are Z-XLR8 and Q-Save. Z-XLR8 seems to have many of the features of Fastload, but I haven't seen it in operation. I have seen Q-Save in operation. It does LOAD and SAVE fast, but it requires an added filter on the line and will not LOAD or SAVE data only, as both Fastload and Z-XLR8 will.

Both Fastload and Z-XLR8 offer:

- High speed operation
- Program SAVE and LOAD
- Dimensioned string (A\$(xxx)) SAVE LOAD
- Dimensioned Numeric SAVE LOAD
- Catalog function
- Your choice of code locations
- Your choice of SAVE speeds

The Fastload tape comes with five programs on it. There are versions of Fastload, named Monitor, to reside above RAMtop (31512 - 32767) and below the system variables (8192 - 9461). A third bare-bones version is called the "bootstrap loader". It is intended to be spliced onto the front of your programs. This allows the fast loading of your programs without requiring the separate loading of Fastload first. (Incredibly, this feature isn't used for the Monitor program. Fastload takes 1 min., 35 sec. to load - if the bootstrap were used, it would only take 23 seconds.) The remaining programs on the tape are demonstrations of Fastload's speed.

Upon LOADING "Monitor", you will be watching a user-friendly BASIC routine, that will help you LOAD Fastload-saved programs. In fact, it also isolates you from practicing with the commands. Fastload is really a machine code program. When you touch the ENTER key, the code is transferred to the area in RAM where it will operate from. As it transfers the code, it destroys the source code. It gets its commands by searching the variables area for a particular dimensioned variable -T\$(24). Therefore, to use Fastload, once it's loaded, there are three steps:

- 1) Establish T\$ with DIM T\$(24)

- 2) Set up T\$ with the command you wish to give Fastload, such as LET T\$="U". Programs are SAVED

and LOADED by starting T\$ with three prefixes: inverse P(space) to SAVE, P(space) to LOAD, or U to load the next program. This action is similar to the Timex' LOAD "", but it will not crash if it starts in the middle of a program.

- 3) Invoke Fastload, using aUSR call - either PRINT USR 8192 or PRINT USR 32685.

These steps can be included as program lines, allowing programs to auto-run when they are next loaded. Some of the steps involved will be discussed below.

### Chaining Fastload

It is possible to chain the bootstrap loader ahead of Fastload, which is ahead of your object program. As with any time two programs are blended together, you must have a clear idea of what each program's requirements are. Fastload needs 1200 bytes, either at 31512 or 8192. In addition, there must be a T\$ that has been DIMmed to 24.

Following the directions on the bootstrap loader, record a copy of the loader on your future program tape. Set it aside. Reset the machine, and load the Monitor. It is necessary to have a copy of Fastload in the proper place in memory before you attempt to SAVE a program with it. If you intend to chain Fastload onto the tape, LOAD a second copy from the source tape (using the Timex's LOAD), and press BREAK (the original copy will have destroyed itself as it moved the code). Now let T\$=" P Fastload", and change line 60 to 60 PRINT USR M. Reinsert the future program tape and GOTO 1. You will now be able to write your own prompt screen. When you press ENTER with nothing but the cursor between quotes, the program and screen will be fastsaved.

If you don't feel the need for the "user-friendly" feature, you can make Fastload load your program immediately. Add lines:

```
100 RAND USR P
460 RAND USR Z
470 LET T$="+"
480 RAND USR P
550 LET T$="␣(program name)"
600 RAND USR P
```

And remove the rest. (The variables already are in the program.) Now make sure that T\$="␣Fastload", and GOTO 60. Fastload will SAVE, and immediately look for your program. Press BREAK, and remove the tape.

Now is the time to set RAMtop, if you need a special value. Then LOAD your object program normally, DIM T\$(24), LET T\$="␣program name", and replace the SAVE line in your program with RAND USR 32685 (or 8192). Replace the bootstrapped tape, then GOTO that line, and the program will be fast saved. When the tape is run, the bootstrap



Cont. from pg 4

will go in using a standard load. then fastload  
Fastload, which in turn will either wait for your  
input or automatically load your program.

#### A Special Case

In trying to blend TFO with Fastload I ran into  
a problem. TFO also uses T\$, but its T\$ is DIMmed  
to 32. Dr. Pearson anticipated this, but I  
couldn't add a different command string, due to  
the workings of TFO. Instead, I went into the  
code, and changed Fastload's check that T\$=24 to a  
check that T\$>=24. I then went to the Monitor  
program and changed the corresponding byte in the  
source array, then chained the program in the  
usual way. The result is a TFO that automatically  
sets RAMtop to the maximum and loads in one  
minute. I expect that a fully filled TFO will  
SAVE in six minutes, rather than 25. Call me for  
more info on this application.

#### SAVEing Arrays

The biggest savings in time occurs when you use  
Fastload to SAVE data only - an 8K text file from  
WSII SAVES in 30 seconds. There are four new  
prefixes for T\$ to load arrays: N - array letter,  
inverse N - array letter for numeric arrays, \$ -  
array letter and inverse \$ - array letter for  
string arrays. It's possible to save from A\$ and  
load the result back into B\$. What's more, they  
don't even have to be the same size - if it's too  
long, the excess is dropped, if it's too short the  
rest of the array is left alone. As with the  
auto-starting programs, it is possible to  
incorporate the lines that set the values of T\$ up  
in your program, and SAVE or LOAD data from within  
the program. An example of that was given in the  
April newsletter.

And More.....

There is one more feature to Fastload - its  
reports. Upon RETurn from the machine code, you  
will be able to see how the SAVE went or to verify  
the contents of the tape. You may have noticed  
that I specified PRINT USR 8192 rather than the  
usual RAND USR 8192. The Print allows you to  
inspect these results. By setting T\$="C", PRINT  
USR 8192 and playing the tape will return a report  
on the quality of the code on the tape. If there  
is some interest shown in this, I'll present some  
ideas on how to write a program to take advantage  
of these reports.

Mark Fisher

#### SPECTRUM EMULATOR FOR TS 2068

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INTERESTED MAY ORDER THE EPROM  
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DEPOSIT OF \$30 OF WHICH \$20 IS  
NONREFUNDABLE. THE TOTAL COST  
WILL BE BETWEEN \$79.95 AND  
\$89.95. THE DELIVERY TIME IS AT  
LEAST 6 WEEKS. MORE NEWS WILL BE  
GIVEN AT THE JULY MEETING. IN  
ADDITION A FULLER DISCUSSION IN  
THE AUGUST CATS NEWSLETTER. YOU  
MUST BE A CATS MEMBER TO ORDER

1984

#### AD RATES CATS NEWSLETTER

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HALF PAGE	55	161	313	594
QUARTER PAGE	30	88	171	324
BUSINESS CARD	15	43	81	155

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## AVOID COPYRIGHT INFRINGEMENTS

A users group's library is often enlarged by the copying of programs that were written by individuals who are not group members. It would be wise, therefore, to be familiar with copyright laws with respect to computer programs. The following are some general considerations and guidelines concerning the copyright law and computer programs. These considerations are solely for the convenience of the reader and are not intended to, nor should they be interpreted to constitute legal advice.

Copyright law protects original works of authorship, which includes computer programs, at least in visually perceptible form. What is protected is not the idea, but rather the form of expression. For example, the idea of a space war game, even if original, would not be copyrightable, but the form of expression embodied in an algorithm would be copyrightable. Copyright protection begins when the work is first fixed in a tangible medium of expression, e.g., reduced to writing. It is important to remember that the work need not be published for copyright protection to attach and that the law does not require copyright notice until the work is actually published. Furthermore, the new copyright law is more liberal than the old law in allowing the copyright owner to cure omissions of notice or defects in the notice, so that one cannot assume that a particular program is not copyrighted merely because no copyright notice is attached thereto.

Another important point to remember is that exact copying is not required for copyright infringement. If substantial portions of the work have been copied such that one would be likely to recognize the originally copyrighted work, copyright infringement may have occurred. Also, copyrighted works can be embodied in later developed works, commonly called "derivative" works. These derivative works are the subject of a separate copyright, but permission must be obtained from the owner of the original copyrighted work to incorporate it in the derivative work. An example of a derivative work would be a translation of a computer program from one computer language to another, or the inclusion of one program in a more detailed or complex program. To be on the safe side, it is best to obtain permission from the copyright owner of the original program if the basic algorithm or any parts of the program are to be included in a new program or the like.

If there is any question as to whether a program has been copyrighted, the author of the program should be contacted and permission to copy should be obtained in writing. If the program appears in a Journal, the publisher as well as the author of the published program should be contacted and permission obtained. Even if no copyright notice appears adjacent to the program, the author, if known, should be contacted to ensure that all parties concerned have given their consent.

This information should help you recognize potentially troublesome situations. Remember--if you are ever in doubt, always get permission in writing from the proper authority.

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX  
SOFTWARE IMPRESSIONS  
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX  
by Alan Pollock

GAME: CYCLEPATH (Deathchase) by M.J.  
MACHINE: TS 2068 Escort  
LOAD TIME: 2:04  
JOY STICK: Definitely  
SOLD BY: Games To Learn By Inc.  
Box 575, #2 South Street  
Williamsburg, Mass. 01096  
413-268-7505  
PRICE: \$19.95 plus shipping

So you've got a shiny new TS 2068 sittin' there when your friends come over. "What'll she do?" they say.

Well you could load a nice spread sheet or data file or even a word processing program...but you want to show off? Load Cyclepath, hand 'em a joy stick and let 'em at it!

Arcade-fast? You bet! 3-D with a little imagination.

On to the story. Somewhere in the future you are charged with the galactic responsibility of patrolling a section of earth on a motorcycle to keep the bad guys away. You do this in the true cosmic tradition - shoot 'em. The foes are other motor-cyclists, helicopters, tanks etc.

Sound easy? Catch #1: You have to avoid the trees. Catch #2: The only time you can fire at the enemy is when you are traveling at top speed. WHAM! Those trees come at you pretty fast.

Each time you clear your sector daytime and nighttime, you progress to a new level of difficulty.

Translation: MORE TREES!

There are 8 levels with the promise of a fantastic reward after clearing the top level - probably no more trees. You must do all of this without hitting 3 trees. If you do, you must start over. If anyone makes it through level 8, please let me know. I'm still trying to get through level 3.

It's a fast, fun game with color and sound, although after a while you wish for a volume control.

It's easier to concentrate when the game is played in black and white. I suspect that people who are successful at CYCLEPATH also drive fast around the Beltway.

20 bucks. That's pumping 80 quarters into an arcade machine. You'd be better off "co-op"ing the game with someone to halve the cost.

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

GAME: PENETRATORS by Melbourn House  
MACHINE: TS 2068  
LOAD TIME: 3:50  
JOY STICK: A Must  
SOLD BY: Gesang Associates, Box 452  
Randallstown, Md. 21133  
301-922-0767  
PRICE: Varies \$11 to \$15

Do you know someone you want to get even with? Preferably someone with arthritis in his wrist? Give them the TS 2068 game PENETRATOR. While a little slower than CYCLEPATH, PENETRATOR makes you concentrate harder because more dangers exist to eliminate you.

In this two dimensional game, you fly a fighter ship over, under and through some wicked moving terrain while trying to bomb enemy radar, shoot down enemy missiles and avoid being zapped or crashing into mountains or low slung cave ceilings.

Doesn't sound so bad you say? Here's the rub. Your wrist has to be able to do 7 things at once: UP, DOWN, FORWARD, BACKWARD, SHOOT, BOMB and STOP. Good luck! Most joy sticks can do 6 things. In PENETRATOR, you bomb with the fire button but you shoot by tapping the joy stick lightly to the right at about 2 o'clock. Folks that's some work out for your wrist. Ah...but that's the challenge. I tried to be sneaky and use a combination of the joy stick in one hand and the key board fire control in the other. Good try, but drives you bonkers!

This game offers a nice selection of menu options including the ability to watch a pretty good demo game of all 4 levels, and the welcome ability

to cut down on the number of sirens. I recommend the training option for unlimited practice to build your confidence. For the creative minds you can design and save your own landscape with mountains, tunnels, enemy radar and missiles.

I like this game because you won't master it quickly and then let it gather dust. If you can find one at \$13 or under, it's worth it.

GAME: QUACK ! by M. Fisher

MACHINE: TS 1000 - 2K

LOAD TIME: 28 seconds

SOLD BY: M. Fisher Associates  
c/o C.A.T.S.

PRICE: Maybe more serious involvement  
with the club and/or helping  
out the news letter?

WARNING: The Surgeon General has determined that this game is addictive...addictive...addictive.

What! Another shoot 'em down game? Com' on, gimme a break. OK OK, I know who the author is. I'll play.

You're in charge of security at Fisher International Airport - your job is to keep the big jets a-flying. Those big multi-million dollar 747's carrying thousands of humans and tons of TS software. Hey, heavy-duty pressure.

The problem is DUCKS - Flocks of 'em - flying in the opposite direction of the jets. If one of those ducks flies into a jet engine...YUK ! Mess-time. The big silver bird's commin' down. Law-suit city.

With all due respect to the Audubon Society, 'only one thing to do. Shoot those ducks outta the sky! BUT, if you miss, guess what you'll probably hit. You got it - Boeing's finest.

Hey, piece-a-cake. Here come the birds. OK now just figure the ducks speed and your angle of trajectory and FIRE! What? I missed? What's goin' on here?

The maniacal Mr. Fisher makes his move. When you fire, the speed of the

ducks changes and if you only wing 'em (sorry about that), a small part of the original duck keeps flying and the target becomes much harder to hit. Strange bird indeed, but a heck of a fun game.

Simple instructions: Self starting and hit almost any button to fire.

2K - How does he do it ?

This is family software. At my house QUACK ! brings smiles and squeals of delight from all, including the 2 year old. This game eases the apprehension of non-computerists.



PROGRAM: TS DEMO EPROM

MACHINE: TS 1000 - 2K

**LOAD TIME: Zero !**

SOLD 8Y: Gesang Associates, Box 452  
Randallstown, Md. 21133  
301-922-0767

**PRICE: \$15**

"Hey Lucille! Look at this. Can you believe it - a review of a 2K demo eprom. Boy that news letter must be really hard up for articles."

Humph. As a professional, I can only respond - "Oh Yeaaa?"

As a novice to computers, I was curious. This demo board seemed like a good opportunity to learn something about eproms and diddle a little with the connecting plug. So I splurged 15 bucks, Jules handed over this funny lookin' thing with wires and resistors and a chip and guess what - The program's neat.

Love that load time. Hit RUN and you're off. Now please overlook the obvious hype of a certain watch company. The demo's straight foward and interactive.

Does your house have someone that thinks you spend too much time with computers, someone that's uncomfortable around those little black boxes?...maybe some folks that still marvel at the six transistor radio?...mine does. I set it up in the kitchen one night and walked away. I got a kick out of watching the whole family get involved. The program asks easy, friendly questions and you



Cont. from pg 8

should see lots of smiles, hear some "that's neat", and best of all "Gee, I didn't know it was that easy."

The program starts with a nice moving graphics display, asks your name and shows it in big block letters (up to 7), which you can BREAK and COPY. My children had the best time with this and the basic math.

Next we have a little show-off trigonometry, bar graph, clever graphics of the Space Shuttle and finally the demo ends with the most humorous bit - recipes. Did he say recipes?

A chicken dinner recipe for 4 is shown and you have the option to enter how many people you need to serve and the recipe adjusts accordingly. Where's the humor? My wife entered 926 people and everyone roared when the recipe converted.

The demo personally thanks you and re-starts, waiting for the next technophobic to walk by.

Too mundane you sneer? Not sophisticated enough for you?...Well, excuse me - you're definitely IBM material.

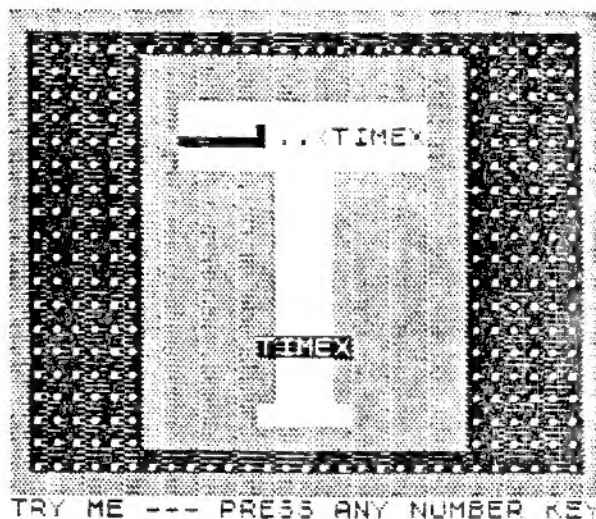
As beginners, my family and I have already had our moneys worth of fun together, and that's the key. But do me a favor, don't tell Jules how enjoyable this is. He's got a gold mine here.

I'll miss this demo when it's dismantled.

#### TS 2068 QUICK-FIX

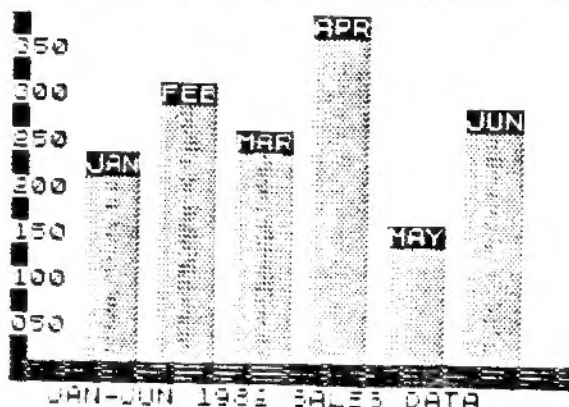
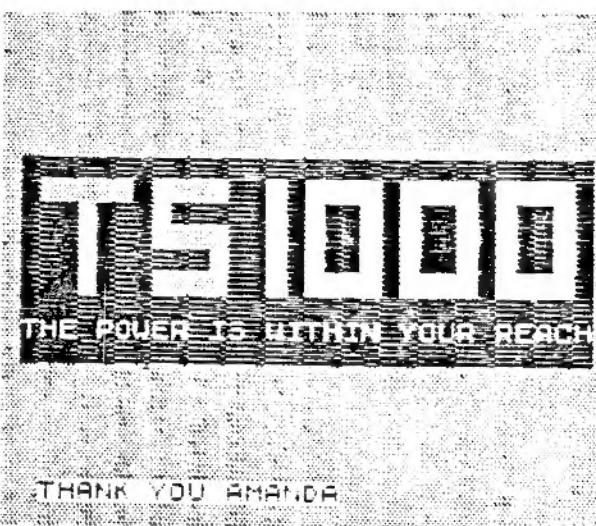
I'm looking for an answer to make my TS 2068 space bar work when pressed on either end. Until then I've put masking tape on the areas that don't work. When my finger hits the rough tape texture it automatically slides over to the working part of the bar.

THIS COULD BE YOUR  
AD  
IN THE NEXT ISSUE



A WARM WELCOME TO....

# AMANDA



## EPHEMERIS V

Contributed by:  
DUNCAN R. TEAGUE  
Planetarium Director  
CRAIGMONT PLANETARIUM  
Memphis, Tennessee

Ephemeris V is a planet finder program for the Timex Sinclair 16K Computer. It loaded in one try and ran automatically. After briefly displaying the title, author, and copyright statements, it asks for information about the user's location in time and space. Inputs are required for the user's latitude and longitude (in decimal degrees), the date (as an eight-digit number), and local time (using a 24-hour clock). There was a thoughtful reminder to subtract an hour for daylight savings time.

Since Ephemeris V is advertised as a planet finder, the program next asks what planet the user wants to find. The only one I could see the evening in question was Jupiter. I pressed the appropriate key for Jupiter, and, a few seconds later, the television screen was filled with information in a neat display. Information included my latitude and longitude, local sidereal time, the current phase of the moon, the constellation in which Jupiter was located, and Jupiter's coordinates in three different systems: right ascension and declination; altitude and azimuth; and plain English.

The next screen is a menu of eight choices, the most impressive of which is a graphic display of the sky -- a 50° section of the ecliptic including the planet just found and the nearby constellations. The position of the planet is indicated by a flashing  $\odot$ .

The same information can be obtained for another planet, the sun, or the moon. If the object is not in the sky at the time specified during the set-up phase, the user is told this information along with the time of the next meridian transit of that object.

Other options allow the alteration of the latitude, longitude, date, and time of observation. The last option is to find a "given point," essentially a process by which right ascension and declination of the "given point" are converted to altitude and azimuth.

The only problems I found with Ephemeris V are in this option. When the right ascension and declination of the given point are input, the display shows the right ascension one minute less than the value input by the user. If the observer's local sidereal time and 0° declination are the inputs, the azimuth displayed should be 180°, and the altitude displayed should be same as the altitude of the observer's celestial equator. Instead the program "crashes" and reports an error code that means an arithmetic overflow.

Despite these two minor problems, Ephemeris V is an impressive program. It can tell the user the required information for any year between 1920 and 2020. For the next SEPA Conference in Bradenton, Florida, Ephemeris V indicates that Mars and Saturn will be inconjunction in Libra, and that the third quarter moon will rise just in time for a midnight swim on the 21st (of June 1984). It would make a great interactive lobby display for a science museum. Visitors could easily follow the prompts once the set-up phase is completed. I know I'll use Ephemeris V to provide answers to those off-the-wall questions I get by telephone about when the moon will be full next May and where to look in the morning sky for Venus and Mars.

Ephemeris V is available from Robotec, Inc., 59 C Street, Ampoint Industrial Park, Perrysburg, Ohio (43551). The cost is \$14.95 + \$1.25 S&H for mail order for the cassette and the accompanying documentation.

## MAKING BACKUP CASSETTE COPIES FOR 2068 AUTORUN MC PROGRAMS.

With a little analysis it turns out to be very easy to make backup copies of most commercial 2068 autorun MC programs from your computer. These programs are usually not responsive to BREAK and LIST. One always successful way of course is to make a cassette to cassette copy using two player recorders. Signal conditioning (attenuation/filtering) between the ear jack of the sending player and the mic jack of the receiving recorder is required. The author owns a Winky Board I which accomplishes this very well for TS 1000/1500 tapes and it is presumed \*that the Winky Board for the 2068 (not yet acquired by the author) will work similarly. However, in those cases where the MC program contains a BASIC "LOADER" there is no problem making a backup tape from your computer with a little analysis. The MERGE command will load the tape the same as LOAD but among other things it will not execute a programmed autorun. Start out with MERGE " " therefore and stop the tape as soon as the OK report appears. Do not rewind! Then LIST and analyze what you see. Using PSION VU-3D as an example for those that have it, you first see a one liner which says LOAD "VU-3D" - clearly identifying a subsequent basic program on the tape. Therefore, in this example, one would MERGE " " again, stop again, and LIST. In the VU-3D example one now sees a 14 line program which requires some analysis. What indeed are we looking for? We are looking first for those lines which LOAD " " SCREEN\$ and which LOAD " " CODE. In the VU-3D example, we will see this in line 9 of the 14 line program. Another thing we're looking for is a reset of RAMTOP. In the VU-3D example, we find this also in line 9. Unfortunately I really can't give you a universal recipe since an analysis of each individual program is required. In the VU-3D example, it is clear that a LOAD followed by a start from line 9 will (a) reset RAMTOP, (b) load the display screen, and (c) load the machine code. Another line (line 12) divulges the number of bytes in the MC

section since SAVE "CODE m, n requires full parsing (i.e., specification of m, the start address, and n, the number of bytes included). However, if one isn't sure of n, it is always a sure thing to include all of the bytes between the RAMTOP plus 1 and P-RAMT (65535). This is the case in the VU-3D example. I will now describe a "cookbook" recipe to copy the example program; namely, PSION VU-3D. Two cassettes are involved - the original, C-0, and the copy, C-C. The following instructions involve direct commands.

### VU-3D

<u>STEP</u>	<u>REMARK</u>
1. Insert C-0, MERGE " " Start recorder.	Stop recorder on OK report. Do not rewind
2. NEW	Obliterates 1 line LOAD program (unnecessary)
3. MERGE " " Start recorder.	Stop recorder on OK report. Do not rewind.
4. LIST- Add line 9999 as follows: 9999 SAVE "VU-3D" LINE 9	
5. Remove C-0 Insert C-C.	Do not rewind C-0. Put a blank leader in C-C.
6. GOTO 9999	Direct command. The 2068 will instruct you re' recorder.
7. Stop the record- er immediately after the OK report.	Don't waste tape. It will only cause delay in reload.
8. Remove C-C. Insert C-0. LOAD "S" SCREEN\$ Stop recorder as soon as OK report shows up.	Do not rewind C-C. PSION named this file "S". You will have to operate PLAY on recorder without prompt.

It has since been determined  
that Winky I will work on the  
2068 tapes for duping machine

Cont.on pg 12

Cont. from pg 11

9. Remove C-0. Insert C-C. SAVE "S" SCREEN\$ Stop recorder as soon as OK report shows up. You will get recorder prompt.
10. Remove C-C. Insert C-0. LOAD " " CODE Stop recorder as soon as OK report shows up.
11. Remove C-0. Insert C-C. SAVE "VU-3D" code 30720, 34815

Test your new copy by rewinding the tape, resetting the computer and LOAD "VU-3D". You won't be able to tell the difference from the original. It's all there. Of course the procedure will vary somewhat for other programs dependent on analysis of the BASIC "LOADER".

Bernie Gerber

## SINCLAIR QUANTUM LEAP

ON 20-21 --- THIS EVENING AT THE MEETING OF THE PSION COMPUTER SOCIETY, REPRESENTATIVES OF SINCLAIR RESEARCH OF CAMBRIDGE, ENGLAND UNVEILED FOR THE FIRST TIME IN AMERICA THEIR REVOLUTIONARY SINCLAIR QL COMPUTER.

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AN AUDIENCE OF SEVERAL HUNDRED VIEWED A SPECTACULAR LIVE DEMO THAT WAS PROJECTED ONTO A LARGE SCREEN. AFTER THE MULTI-MEDIA DEMO, QUESTIONS WERE TAKEN FROM THE ENTHUSIASTIC GATHERING AND TWO COMPUTERS WERE MADE AVAILABLE TO ANYONE WHO WISHED TO TRY A LITTLE "HANDS-ON"... AND LOTS OF US DID. BY NOW YOU HAVE READ ARTICLES DESCRIBING THE FEATURES OF THE QL SO WHAT FOLLOWS IS INFORMATION FROM HASTILY WRITTEN NOTES THAT MAY ADD SOME NEW DATA TO WHAT YOU ALREADY KNOW.

### RESOURCES

At the moment I have very little to report in the Resources area. For those looking for copies of the book THE ESSENTIAL GUIDE TO TIMEX/SINCLAIR HOME COMPUTERS, by Morse, Adanson, Anrep and Hancock should try Maryland Book Exchange in College Park.

I am working on some continuance of Home Energy Programs and will report more on them next month. I would like more input from members of the group who have ideas and information to share. You can call me at 301-270-5991 after 11 A.M.  
Mike Cohen

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AD  
IN THE NEXT ISSUE

- 128K: 32K FOR DISPLAY, 6K FOR OPERATING SYSTEM, OVER 90K FREE
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TIMEX CORPORATION Waterbury Ct. 06720

Dear Timex Sinclair 2068 Users

Thank you for your recent request for technical information on the T/S 2068 computer. Available information is as follows.

A large size schematic diagram of the TS2068 may be purchased for \$2.50 (postage included) from the Timex facility in Little Rock, Arkansas (Address listed below). The schematic is available now.

A Comprehensive Technical Manual will also be available from Little Rock, approximately May 21, 1984. The manual is about 300 pages long and includes a reduced-sized schematic diagram. It will be priced at \$25.00 (postage included). This comprehensive Technical Manual contains all of the information that was to appear in the "Advanced Programming Concepts Manual" referred to in the T/S 2068 Users Manual. It includes updated and corrected versions of all of the material which previously had been made available as the "Timex Sinclair 2000 Third Party Software Guide". It also contains additional information, some of which has been published as Technical Bulletins, and some of which is new. This Manual includes ALL technical information which is available from Timex for the T/S 2068. The Manual will include a printed circuit board layout for using EPROMS in the cartridge port.

Subjects covered include memory, bank switching, block diagram, I/O facilities, I/O port layout map, interface with external devices, connector specifications, system software, commands available on the 2068 but not on the ZX Spectrum, advanced video modes, connection of RGB Monitor, and other information.

The address for both the schematic and Technical Manual is as follows:

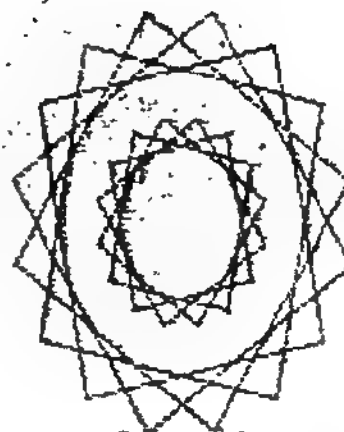
Technical Materials Sales Division  
P.O. Box 1378  
Little Rock, Arkansas 72203

The information described above is the ONLY technical information that is available for the T/S 2068 computer. No information is available for products which have not yet been shipped, including the Modem, System Interface Unit, 88-Column Printer, or Microdrives. Accessories and peripherals marketed for the ZX Spectrum will not, in general, directly interconnect with the T/S 2068. We have no information on modifications required for such an interconnection.

Thank you for your continued interest in the T/S 2068.

Regards,

Doug Smith, Manager  
Product Planning



```
1>REM STARSPIR/SPECTRUM @ D60
version 1983 Modified for TS2068
BGERber 1984 STARSPIR 1 ZX/COMPU
TING FEB/MAR 1984
2 BORDER @: PAPER 7 BRIGHT 1
CLS
3 OVER @: CLEAR 63999
4 POKE 23653,8
5 LET Z=32768: LET D=0
7 FOR M=1 TO 3
10 FOR N=0+D TO 2*PI+D STEP PI
/8
15 INK @: PLOT 127+127*SIN N,6
7+87*COS (N)
16 INK @: PLOT 127+127*SIN (N+
PI/100),87+87*COS (N+PI/100)
17 INK @: PLOT 127+127*SIN (N+
PI/50),87+87*COS (N+PI/50)
18 INK @: PLOT 127+127*SIN (N+
3*PI/100),87+87*COS (N+3*PI/100)
22 INK @: PLOT 127+70*SIN -N,2
7+70*COS -N
25 DRAW 70*15IN (1-N+PI/2)-SI
-N,70*(COS (1-N+PI/2)-COS -N)
26 INK @: PLOT 127+35*SIN N,
+35*COS N
27 DRAW 35*15IN (N+PI/2)-3IN (
,35*(COS (N+PI/2)-COS N)
30 NEXT N
35 GO SUB 100
40 LET Z=Z+7000
50 LET D=D+PI/32
60 CLS
70 NEXT M
92 GO TO 200
100 RESTORE 110 FOR N=64000 TO
54020 READ @: POKE N,@ NEXT N
RANDOMIZE USA 64000
110 DATA 17,3,64,33,Z-INT (Z/25
6)*256,INT (Z/256),6,27,197,6,0,
26,119,19,35,16,249,193,16,244 2
01
120 RETURN
200 LET Z=32768
205 FOR F=0 TO 60 STEP 20
210 RESTORE 220 FOR N=64000+
TO 64019+F: READ @: POKE N,@: IE
XT N
220 DATA 17,Z-INT (Z/256)*256 I
NT (Z/256),33,3,64,6,27,197,6,0,
26,119,19,35,16,249,193,16,244
230 LET Z=Z+7000
240 NEXT F
250 POKE 64060,201
300 IF INKEY$="" THEN RANDOMIZE
USA 64000
303 IF INKEY$="3" THEN FOR X=1
TO 20: NEXT X: RANDOMIZE USA 640
00 GO TO 303
309 GO TO 300
```

It's simple and well and is now being sold by E-T-EX and other distributors. This product allows the T-EX computer to enter the new era of TELECOMMUNICATIONS. It is simple to install and use. Just unplug your phone jack from the phone outlet, plug this cable into the modem, and connect the modem phone jack back into the phone outlet. Then connect your computer to the modem, load the supplied software (INTERNET) and you are ready to use services of other computer and data banks. There is no need to have any knowledge of computing or programming to make use of this product. With the INTERNET software loaded, your computer and modem will function as a smart terminal. With this price (and appropriate subscriptions or memberships) you will be able to use your telephone line to

- In addition to such capabilities, your 2050 Modem can do any more useful functions under the control of optional software package. The 2050 Modem comes with cassette software for Tivex 1000-1500 and IBM computers and has Auto Dial/ Auto Answer features.

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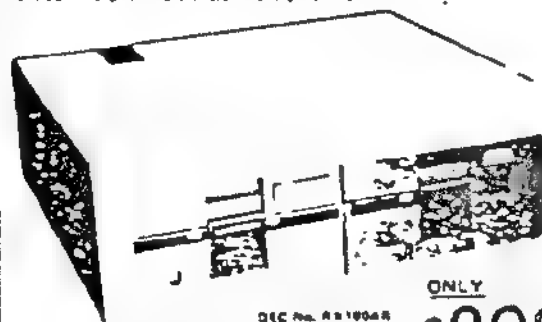
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## STREAMING ALONG

I'm sure that you all know by now how to drive your printers from a program; you simply replace your customary PRINT statement with a LPRINT statement.

Simple, right?

But what if you have a program which will print to the printer or to the screen at the user's option? How do you program this ability into the computer? You might try something like this:

```
10 INPUT "Print to S-screen, or F-rinter";a$
20 IF a$="F" THEN LPRINT "Message"
30 IF a$="S" THEN PRINT "Message"
```

This method works well, but takes two sets of print statements at every output point. Thus taking up valuable memory and slowing your computerized masterpiece down.

Fortunately, Uncle Clive provided an alternate way of sending output to the screen and/or printer. This alternate way has to do with the way that your TS 2068/ZX Spectrum looks at outputted data.

Upon power-up, the computer sets up channels for your output to travel along. These channels are to the printer, screen, edit lines, and other areas beyond the scope of this article. It then assigns these channels to certain output statements: screen for PRINT and LIST; printer for LPRINT and LLIST; and edit lines for ROM output. This channeling of data is known as STREAMING. Each of the three primary output areas mentioned are given a number all their own. Stream 1 goes to the edit lines, stream 2 goes to the screen, and stream 3 goes to the printer. Thus; by changing the default area of each stream, we can redirect outputted data. This redirecting is accomplished by assigning the stream to a new area: "K" for the edit lines, "S" for the screen, and "F" for the printer. Thus, by changing the output area of stream 2, we can cause PRINT and LIST statements to go somewhere other than on the screen. This is done by using the OPEN# statement in the form of OPEN#<Stream>,"<Device>". Consider the new version of our program:

```
10 INPUT "Print to the S-screen, or F-rinter";a$:OPEN#2,a$
20 PRINT "Message"
```

This new version does the same as the first but shorter. In a longer program this can add up to a savings of several kilobytes. Of course, once you have re-routed the data, you can return it to its normal area by using the CLOSE# command in the format of CLOSE#<Stream>.

Another unique trick of streaming is the ability to print on the edit lines by opening stream 2 to the "K" device. See if you can figure this out from the previous examples we've used.

Happy streaming!

THIS COULD BE YOUR  
AD  
IN THE NEXT ISSUE

1 REM BINARY CHARACTER  
BUILDER  
BY J. SHAFER (12/29/83)

```

30 FAST
40 GOSUB 400
50 DIM D(8)
60 DIM D(8)
70 LET D(1)=128
80 LET D(2)=64
90 LET D(3)=32
100 LET D(4)=16
110 LET D(5)=8
120 LET D(6)=4
130 LET D(7)=2
140 LET D(8)=1
150 LET I=0
160 LET A=0
170 LET G$=""
180 INPUT B$
190 IF LEN B$ < 8 THEN GOTO 30
200 PRINT TAB 2; B$
210 FOR I=1 TO 8
220 IF B$(I)="1" THEN LET A=A+D(I)
230 IF B$(I)="1" THEN LET G=G+B$(I)
240 IF B$(I)="0" THEN LET A=A
250 IF B$(I)="0" THEN LET G=G
260 NEXT I
270 PRINT " = "; A
280 PRINT AT 1,5,20; G$
290 LET I=I+1
300 IF I=7 THEN GOTO 230
310 PRINT AT 2,0; "TO RE-DE
320 OR MAKE NEW CHARACTER
330 ANY KEY?"
340 GOTO 180
350 IF INKEY$="" THEN GOTO 155
360 IF INKEY$="N" THEN LIST
370 CLS
380 GOTO 1
390 PRINT AT 4,2; "BINARY TO DEC
400 CHARACTER
410 PRINT
420 FOR N=6 TO 13
430 PRINT AT N,20; "LLLLLLLLL"
440 NEXT N
450 PRINT AT 1,6; "CHARACTER BU
460 ILLER" AT 2,7; "2*81-151000/1500
470 AT 3,5; "INPUT 3 DIGIT BINARY N
480 PRINT AT 5,0; "
490
500 RETURN
510 SAVE "BDC"
520 GOTO 1

```

\*CHARACTER BUILDER\*

INPUT 3 DIGIT BINARY NUMBER.  
BINARY DEC. CHARACTER

00000000	= 0	LLLLLLLLL
00000001	= 1	LLLLLLLLL
00111100	= 30	LLLLLLLLL
01000010	= 32	LLLLLLLLL
00111110	= 34	LLLLLLLLL
00000010	= 2	LLLLLLLLL
01111110	= 126	LLLLLLLLL
01000000	= 64	LLLLLLLLL

TO RE-DEFINE OR MAKE NEW  
CHARACTER---ANY KEY?

\*CHARACTER BUILDER\*

2\*81-151000/1500  
INPUT 3 DIGIT BINARY NUMBER.  
BINARY DEC. CHARACTER

00000000	= 0	LLLLLLLLL
00000001	= 1	LLLLLLLLL
00011000	= 24	LLLLLLLLL
00100100	= 36	LLLLLLLLL
00110100	= 38	LLLLLLLLL
00000100	= 4	LLLLLLLLL
00111000	= 36	LLLLLLLLL
00000000	= 0	LLLLLLLLL

TO RE-DEFINE OR MAKE NEW  
CHARACTER---ANY KEY?

\*CHARACTER BUILDER\*  
2\*81-151000/1500  
INPUT 3 DIGIT BINARY NUMBER.  
BINARY DEC. CHARACTER

00000000	= 0	LLLLLLLLL
00110000	= 48	LLLLLLLLL
00010000	= 16	LLLLLLLLL
00011100	= 28	LLLLLLLLL
00010010	= 18	LLLLLLLLL
00010010	= 18	LLLLLLLLL
00001100	= 12	LLLLLLLLL
00000000	= 0	LLLLLLLLL

THIS COULD BE YOUR  
AD  
IN THE NEXT ISSUE

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Capitol Area Timex/Sinclair Users' Group  
P.O.Box 725  
Bladensburg, MD 20710

July, 1984

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KA 80 \_\_\_\_\_ full keyboard \_\_\_\_\_

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Machine \_\_\_\_\_

No. of years computer experience \_\_\_\_\_

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Comments: tell us how you heard about C.A.T.S.

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Ham Radio Network Information  
QZX Net... Wednesdays, 9p.m. local time; 14.345 MHz N4AF NCS  
Eastern Regional Sinclair Net... Sundays, 1600 Z; 7.245 MHz  
K02F NCS

Meetings are held on the second Saturday of each month at 2 P.M. in the large meeting room of the New Carrollton Branch Public Library.

301\*922-0767

The official contact person for CATS is JULES GESANG:

CATS is a non-profit special interest organization dedicated to serving the interests of those who own, use, or are interested in learning more about the Timex/Sinclair family of personal computers.

Bladensburg, MD 20710

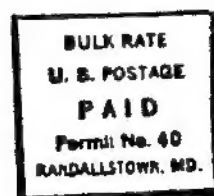
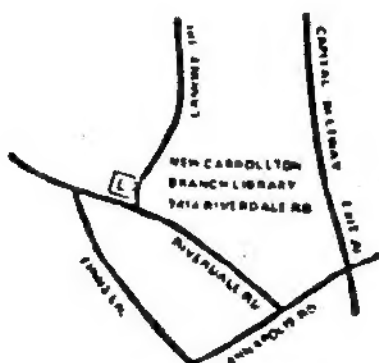
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Next CATS Meeting ++ 2 P.M.

**SATURDAY, JULY 14**

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